

19971213.ba v01_n830.bam.971213 v01_n831.bam.971213

>From ???@??? Sun Dec 14 11:08:08 1997
Message-Id: <199712131544.JAA14328@sco.theporch.com>
Date: Sat, 13 Dec 1997 09:44:00 CST
Subject: BOATANCHORS digest 1830

BOATANCHORS Digest 1830

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- 1) Re: Modulator thoughts...
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- 2) SSB Phase adjustment question
by Stanley Wilson <microres@crl.com>
- 3) Fw: I get mail
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- 4) Re: Loose Base
by Ethan Emeson <ethan@olywa.net>
- 5) RE: Magic Sliders (follow up)
by JONWEINER <JONWEINER@aol.com>
- 6) Re: Hartley Plate Choke
by Sandy W5TVW <ebjr@worldnet.att.net>
- 7) Re: FT-243 Crystals for 80 and 40 Meters Additional Post
by Hal Waite <halwaite@sprintmail.com>
- 8) Dzus Fasteners
by Don <71333.144@compuserve.com>
- 9) BC-645 (RE: Phasitrons)
by William Donzelli <william@ans.net>
- 10) Re: BC-645 (RE: Phasitrons)
by Richard Loken <richardlo@devax.admin.athabasca.ca>
- 11) Re: Hartley Plate Choke
by Ken Gordon <keng@uidaho.edu>
- 12) Sell SB-110
by Witmerjr@aol.com
- 13) Phasitron Tube
by Sheldon Wheaton <swheaton@sky.net>
- 14) Re: SSB Phase adjustment question
by Bob Roehrig <broehrig@admin.aurora.edu>
- 15) UG-970 Source
by Dan Martin <dmartin@visuallink.com>
- 16) T-784 canoe-anchor xmtr
by Jeffrey Herman <jeffreyh@hawaii.edu>
- 17) Howard 482 FM
by mirage!pamars@uucp-1.csn.net (P.A.Marshall)
- 18) R-388
by Kevin Pease <hamradio@mm1001.theporch.com>
- 19) Need GR Variac Meter

- by Gary Harmon <gharmon@txdirect.net>
- 20) Re: T-784 canoe-anchor xmtr
by Ken Gordon <keng@uidaho.edu>
- 21) Re: BC-645 (RE: Phasitrons)
by William Donzelli <william@ans.net>
- 22) Re: T-784 canoe-anchor xmtr
by Tom Norris <badger@telalink.net>
- 23) RE: Magic Sliders
by johnz@earthlink.net
- 24) Re: Magic Sliders (hefting BAs)
by Ho4bart <Ho4bart@aol.com>
- 25) Re: BC-645 (RE: Phasitrons)
by "OZ8RO" <otterstad@inet.uni-c.dk>
- 26) NEED A METER FOR SX-16
by Dan Arney <kn6di@groupone.net>
- 27) RE: RAO Progress
by Bill Wilson <billo@internettpport.net>
- 28) WTB: 3.1 Kc. Fil for 75A4
by David Meitzen <dmeitzen@champion.aclic.com>
- 29) Info on Jackson Ball Drives
by ab5wg@vonl.com (Ron Eisenbrey)

Date: Fri, 12 Dec 1997 10:21:58 -0500
From: John Shriver <jas@shiva.com>
To: n2bc@ibm.net
Cc: boatanchors@theporch.com
Subject: Re: Modulator thoughts...
Message-ID: <199712121521.KAA23459@brill.shiva.com>

Date: Fri, 12 Dec 1997 02:18:27 -0800
From: Bill Coleman N2BC <n2bc@ibm.net>

The later '275 uses a 6N7 (dual triode) 2nd speech amp to a pair of 6F6s as push pull drivers. In mine, the 2nd speech amp is a 6C5 triode to a 6L6 driver.

I was planning to just clean the old lady and get her on the air... but am curious about the change in the later vintage. It certainly wasn't to reduce cost... Do y'all suppose it would be a worth while change? Now would be the time to do it as I'm about down to a naked chassis.

A single-ended 6L6, with the appropriate modulation (output) transformer with an air-gapped core, would be more expensive than push-pull 6F6's a push-pull modulation transformer. Single-ended output transformers are expensive, need a lot more iron core to avoid

saturation, are trickier to design and wind, can be finnickier if the air gap in the core changes size. The push-pull configuration would have a much smaller and cost-effective transformer, for a very nominal increase in tube cost. It would probably also have better frequency response and lower distortion. Either one will put about 10 watts audio into the modulation transformer. Push-pull would probably draw less B+ power to generate those 10 watts, however...

But, given how much trouble people seem to have finding replacement modulation transformers, I'd leave well enough alone.

Also, don't mess with the modulation transformer laminations in any way. Don't loosen the screws, don't allow the air gap to change size.

Date: Fri, 12 Dec 1997 08:25:33 -0800 (PST)
From: Stanley Wilson <microres@crl.com>
To: boatanchors@theporch.com
Subject: SSB Phase adjustment question
Message-ID: <Pine.SUN.3.91.971212082154.10956A-100000@crl5.crl.com>

In some of the BA rigs from the 50's and 60's (Lakeshore, Central Electronics) had tuning eyes. What was the function? How was the amplitude and phase balance adjustments made. I notice in the block diagram for a CE 100V they had a null meter? Looking for a simple way to verify adjustment without scope, etc..

Thanks, Stan ak0b

Date: Fri, 12 Dec 1997 08:52:43 -0800
From: "Flyer" <rau@wco.com>
To: "boatanchors" <boatanchors@theporch.com>
Subject: Fw: I get mail
Message-ID: <199712121653.IAA18500@shell.wco.com>

mail from an old friend:

> I used to put vhf tube two-way fm strips in the dishwasher...including the old
> GE
> Pre-Progress I used (with deviation down to 3kc) on 39.28 for TCPD/CMPD with
> 88.5p1. Worked fine. I try to be least invasive for work in general. I

have
> not tried
> to "completely restore" down to a chassis in years, I can not even
remember
> what it was.

I seem to remember back in the 60's a commercial radio tech telling me he
got some "totaled" County 2-way FM tube radios from work that had been
submerged... he put them in the oven and baked them real slow... and said
they worked fine after that !

Now I wonder if an R-390 will fit in one of those big laundromat washers ?

Date: Fri, 12 Dec 1997 10:14:07 -0800
From: Ethan Emeson <ethan@olywa.net>
To: hbreuer@metronet.de
Cc: Old Tube Radios <boatanchors@theporch.com>
Subject: Re: Loose Base
Message-ID: <34917EEF.2F2A1572@olywa.net>

I drip very small quantities of super-glue (cyanoacrylate <sp?>) down
the gap between the base and the glass, making sure any extra glue is on
the glass, not the base. Gap may not be very large, as super-glue is
very poor at filling space. After glue dries, extra glue scrapes off
glass quite nicely with a razor blade.

Ethan

Date: Fri, 12 Dec 1997 12:25:27 EST
From: JONWEINER <JONWEINER@aol.com>
To: boatanchors@theporch.com
Subject: RE: Magic Sliders (follow up)
Message-ID: <71b4142c.34917389@aol.com>

Just a couple of observations: 1. they don't "walk", 2. they don't transmit
any microphonics. They just make moving/working on heavy old radios easier.

Jon, K1VVC

Date: Fri, 12 Dec 1997 18:18:47 +0000

From: Sandy W5TVW <ebjr@worldnet.att.net>
To: "Roderick M. Fitz-Randolph" <w5hvv@AENEAS.NET>, boatanchors@theporch.com
Subject: Re: Hartley Plate Choke
Message-ID: <19971212181845.AAA13467@LOCALNAME>

At 02:25 PM 12/12/97 +0000, you wrote:

>I am in the process of building a VT-4-C (211) Hartley Oscillator
>transmitter for 80 meters (but want to have the ability to go to
>160 meters) and have most of the components assembled, however, I
>would like to make the RF choke and want to make it out of small
>gauge magnet wire wound on a wood dowel. Does anyone have any
>suggestions as to the size of wire, diameter of the choke (single
>layer wound) and the length (or turns) that would be suitable for
>40, 80, and 160 meters?

>

>Your suggestions gratefully received.

>

>Rod, N5HV

>w5hvv@aeneas.net

>

I use a 3/4" dowel. Also #26 single silk enamel (the celanese stuff
AES sells is ideal!) wire. I use #12 tinned wire threaded thru holes
drilled in the

dowel for the "end terminals". The winding about 4-1/2 to 5" long closewound.

Seems to make a great choke for 80 and 40. Haven't tried it on 160 yet.
The activity on 160 is so infinitesimal here, I haven't worried about getting
the Hartley there! Everyone on 160 is DXing. When the band is REALLY
populated, there is a contest going! A pity, because it's a really good
night band!

73,

E. V. Sandy Blaize, W5TVW

"Boat Anchors collected, restored, repaired, traded and used!"

417 Ridgewood Drive

Metairie, LA., 70001

860 Hartley 'ECO' under construction**
*** Looking for a TRC-10 transceiver *****
*** Looking for an RAL receiver *****

Date: Fri, 12 Dec 1997 09:57:03 -0800

From: Hal Waite <halwaite@sprintmail.com>

To: Boatanchors <boatanchors@theporch.com>

Subject: Re: FT-243 Crystals for 80 and 40 Meters Additional Post

Message-ID: <34917AEF.637D@sprintmail.com>

Hal Waite wrote:

I have come across a number of FT-243 crystals for 80 and 40 meters, both the CW and fone portions of the bands.

What is a reasonable price for these units? Thanks.

Here is additional information on the frequencies:

7000, 7025, 7050, 7112, 7170, 7206.67, 7225, 7240, 7250, 7273.33, 7275,
3510, 3525, 3555, 3605, 3620, 3625, 3700, 3838, 3840, 3866, 3885, 3950,
3955, 3980, 3990, 3993, 3995.

The above are original marking in ft-243, CR-6B/U, U.S. Crystal, Texas Crystals, PR cases.

Also one CR-1B/AR marker 7120.

In addition, there are a number of crystals that have been remarked with a new frequency; perhaps reground or from another holder. They are in a Signal Corps Case CS-137 which has a capacity of 120 crystals.

The remarked crystal frequencies are:

7010, 7015, 7135,
3510, 3810, 3815, 3820, 3830, 3835, 3845, 3865, 3875, 3880, 3890, 3905,
3906, 3910, 3930, 3945, 3950, 3985.

Plus several dozen out-of-band crystals. I have no way to test these units; all my old gear that took crystals is gone!

The prices quoted me ranged all the way from \$3.00 to \$10.00 with most at the low end.

Thanks for the responses. Hal K3AB/7 Las Vegas

Date: Fri, 12 Dec 1997 13:28:53 -0500
From: Don <71333.144@compuserve.com>
To: boatanchors <boatanchors@theporch.com>
Subject: Dzus Fasteners
Message-ID: <199712121331_MC2-2BC6-A1C0@compuserve.com>

If you are into mil gear and ever wondered about Dzus Fasteners, there is a

neat article with everything you wanted to know and more in the Fall, 1997 issue of Invention and Technology magazine....or I can make you a copy of you send me your address.

73, Don

Date: Fri, 12 Dec 1997 18:39:23 -0500 (EST)
From: William Donzelli <william@ans.net>
To: Old Tube Radios <boatanchors@theporch.com>
Subject: BC-645 (RE: Phasitrons)
Message-ID: <Pine.GS0.3.96.971212182605.573C-100000@titan.purch.ans.net>

> I had heard that the chassis was magnesium,

Could be. I suppose I might check this out using one of my junkers.

> and I believe CQ had a
> warning that there was an incendiary squib in some of these for unit
> destruction, should the aircraft go down.. that some had hit the surplus
> market without being disarmed, ..and that some kids bought one on Canal
> Street, took it home, and almost burned their house down...and 'you
> should NOT put a battery to the big red wire that stuck out the back'..

All aircraft IFF sets of the period (and probably most today) have some sort of squib, generally thermite. The idea is that a pilot that suspects his plane may not make it could fire the things and melt the radio, or a crash would set them off using an impact switch.

A few (very few) did get out with the squibs still attached. One ended up in a museum on display! The bit about a kid almost burning down the house might be true, but it sounds like good surplus folklore.

> I also heard that none had made their way into combat because they had
> been compromised.

A few of the sets were used in the Pacific theatre. The story of their disuse stems from a fear that the German Wurzburg operators (UHF radar with very nice dish antennae) might see the IFF reply pulses. This was a good point, and made sure the rival Mk III IFF system of British design prevailed. Ironically, Mk III IFF was compromised quite easily by sharp German Freya (another radar, VHF this time) operators. It is quite probable that the Mk IV (to which the BC-645 is part of) system was never compromised, as the Japanese only had a few (literally) borrowed Wurzburgs.

William Donzelli

william@ans.net

Date: Fri, 12 Dec 1997 16:49:43 -0700 (MST)
From: Richard Loken <richardlo@devax.admin.athabascau.ca>
To: Old Tube Radios <boatanchors@theporch.com>
Subject: Re: BC-645 (RE: Phasitrons)
Message-ID:
<Pine.PMDF.3.95.971212164553.541313781A-100000@devax.admin.athabascau.ca>

On Fri, 12 Dec 1997, William Donzelli wrote:

> All aircraft IFF sets of the period (and probably most today) have some
> sort of squib, generally thermite. The idea is that a pilot that suspects
> his plane may not make it could fire the things and melt the radio, or a
> crash would set them off using an impact switch.

Years ago I knew a coworker who had serviced Canadian bombers during the war and one task was to remove the IFF box, install a light, and test the circuit by activating the switch in the cockpit. Once he forgot to disconnect the IFF and the normally rectangular box was ball shaped after the test. Think the British must have used more than thermite.

Richard Loken VE6BSV, Systems Programmer - VMS
Athabasca University
Athabasca, Alberta Canada
** richardlo@admin.athabascau.ca **

Date: Fri, 12 Dec 1997 15:56:14 -0800 (PST)
From: Ken Gordon <keng@uidaho.edu>
To: Sandy W5TVW <ebjr@worldnet.att.net>
Cc: Old Tube Radios <boatanchors@theporch.com>
Subject: Re: Hartley Plate Choke
Message-ID: <Pine.BSF.3.95.971212155530.9509B-100000@piobaire.mines.uidaho.edu>

What frequency on 160 do you choose to use? 1805?

Since you can't hear me on 80, I thought I might try 160.

: -)

Ken

Date: Fri, 12 Dec 1997 19:20:20 -0500 (EST)
From: Witmerjr@aol.com
To: boatanchors@theporch.com
Subject: Sell SB-110
Message-ID: <971212192020_1645729476@mrin52>

Hello,

I have a SB-110 that I bought in July. Shortly thereafter I acquired a TS-60 and I've never tried it out the SB-110.

It is in excellent physical condition and very clean! I was told by the previous owner that electrically it worked fine 20 years ago when it was put in storage. There does appear to be a lack of friction between the main dial and the VFO shaft - the VFO shaft does turn! It comes with the original manual - the older style Green manual dated 4/15/66. It does not come with a supply. If you're interested I think a friend of mine has some version of an HP-23 he might part with - I don't know.

I'd like \$250 (money order) plus shipping from 19446 - 15 miles north of Phila. Would prefer "local" sale.

Bob, W3RW

Date: Fri, 12 Dec 1997 19:40:46 -0600 (CST)
From: Sheldon Wheaton <swheaton@sky.net>
To: BA List <boatanchors@sco.theporch.com>
Subject: Phasitron Tube
Message-ID: <Pine.GS0.3.96.971212193744.27487F-100000@sky.net>

Some recent discussion of the Phasitron tube resulted in my receipt of the following message from my friend, tube collector, John Walker. I thought it would be interesting to the list, and perhaps someone can help him out with info on the old WX2B station in Schenectady?

If you can help out, reply directly to John, please.
73, Sheldon KC0CW

On Thu, 11 Dec 1997, Walker, John wrote:

I remember getting my first phasitron tube. It was up at the 1988 AWA

fleamarket. I didn't know what the heck the thing was, but it was unusual. I had to pay 10 bucks for it. The seller made a big deal out of it; special tube and all that. (Well, it really is!) Reluctantly paid for it. This is the one that is in my traveling display case that I set up at hamfests every year. The original number was 2H21. GE later changed the number to 5933. Incidentally, that number was double assigned. The 5933 that we know so well is the 5933/807W. I've always wanted to find part of one of the original transmitters with the phasitron unit. Would be a neat display.

The mention in the msg about stations in upstate NY reminded me about a bit of detective work I started. Here's the story. Found in one of Ed Kings old books (Principles of Television Engineering, 1940) several transmitter block diagrams of some of the early TV stations in NY. Most used some of the more interesting RCA 800 series tubes like the 831, 834, 846, 848, 880, 888, 889, 891, 899. The one that interested me the most was W2XB which used six of the RCA 888's running into four 880's. The 888 is one of the 800 series I don't have yet and along with it's lower mu brother the 887, is very hard to find. These are little water cooled jobs about 6 or 7 inches long with the filament coming out one end and the grid out the other. The center is the plate which is a cast piece of metal with the water inlet holes on the side. The 880 is also one I could use a better sample of. These are somewhat bigger squatty water cooled tubes probably around 8 inches in dia and 8 inches tall.

WX2B had a studio in Schenectady and the main 10kw transmitter was in the Helderberg Mountains near Albany, NY. I thought if I could find someone that had worked there that they might have saved some of these tubes or know someone who had. I figured that a present day Albany TV station might just be using the same site previously occupied by WX2B so I called information in Albany, NY and asked for the Ph # of the local TV station. Thought I might find someone there that could connect me with some old chief engineer. Those idiots at the phone company told me that they couldn't look that up. That it was against some kind of law. I had to have a specific TV station name for them before they could give me a number. Well of all the &\$\$*/*!!*!#&&!!! At that point I was so ticked off that I just set it aside. The thought occurring to me now is that maybe you could send out a msg over the boatanchor net asking if any of the subscribers would know of anyone that worked at WX2B or any person I might contact up there to try and sniff out some of these tubes. I know some of them still must be around in junk boxes. Just gotta know where to look.

John <JohnH.Walker@alliedsignal.com>

Date: Fri, 12 Dec 1997 19:54:33 -0600 (CST)
From: Bob Roehrig <broehrig@admin.aurora.edu>
To: Stanley Wilson <microres@crl.com>
Cc: Old Tube Radios <boatanchors@theporch.com>
Subject: Re: SSB Phase adjustment question
Message-ID: <Pine.ULT.3.96.971212195233.17451B-1000000@admin.aurora.edu>

On Fri, 12 Dec 1997, Stanley Wilson wrote:

> In some of the BA rigs from the 50's and 60's (Lakeshore, Central
> Electronics) had tuning eyes. What was the function? How was the
> amplitude and phase balance adjustments made. I notice in the block
> diagram for a CE 100V they had a null meter? Looking for a simple way
> to verify adjustment without scope, etc..

In the 20-A by C.E. the eye tube is just used as a null indicator.
You adjust the carrier null pots for minimum carrier as indicated by
the eye. Nice thing about the eye is that you can't "pin" it :-)

"Nostalgia is a thing of the past"
E-mail broehrig@admin.aurora.edu 73 de Bob, K9EUI
CIS: Data / Telecom Aurora University, Aurora, IL
630-844-4898 Fax 630-844-5530

Date: Fri, 12 Dec 1997 20:31:36 -0500
From: Dan Martin <dmartin@visuallink.com>
To: boatanchors@theporch.com
Subject: UG-970 Source
Message-ID: <3491E578.4580@visuallink.com>

Hi, folks:

I know that sources of UG-970 and 971 plugs for the 390A have been
discussed in recent postings but I didn't pay too much attention since I
was sure The RF Connection in Gaithersburg had 'em. Well ... they don't.
They say they haven't had any in a while now. Anyone have any? I'd
prefer the UG970, which takes the Twin-Ax to an S0-239. The 971, which
goes from Twin-Ax to female C, would do.

73

Dan

Date: Fri, 12 Dec 1997 16:04:50 -1000
From: Jeffrey Herman <jeffreyh@hawaii.edu>
To: Boatanchors List <boatanchors@sco.theporch.com>
Subject: T-784 canoe-anchor xmtr
Message-ID: <Pine.GS0.3.95q.971212155454.13356B-100000@uhunix2>

Received the latest Fair catalog and have fallen for the T-784 transmitter ("3 to 22 MHz CW in bands 3-6, 6-10, 10-17, and 17-22 MHz at 10-15W...tubes 2E26, 6AC7... \$24.95"). I **must** have one.

Does anyone have experience with this xmtr? Are those tubes still readily available? Is the rated power input power? (Fair sells transistorized xmtrs too - not sure if they use in- or outpower power ratings). What era was this xmtr in use?

I'm actually thinking of buying the RT-3 transmitter; besides the lack of code-burst capability, are there any other differences between the T-784 and the RT-3? Why such diverse model numbers?

Enjoy the weekend!
Jeff KH2PZ / KH6

Date: Fri, 12 Dec 97 20:56:49 EST
From: mirage!pamars@uucp-1.csn.net (P.A.Marshall)
To: BoatAnchors@theporch.com (Boat Anchors)
Cc: pamars@uucp-1.csn.net
Subject: Howard 482 FM
Message-ID: <9712130156.AA17258@mirage>

Hi All,

I just picked up a Howard 482 FM "converter" for the family radio, actually this is a post war FM receiver without an audio output section, it feeds the phono input of your console set. I can not find any information in Rider or Sams on it, so I hope the collective wisdom of the BA list will be able to find a schematic for this lovely little beast and help me get it working once again. If you have any such please drop me a line.

Al Marshall "Real Radios Glow in the Dark" almarshall@acm.org

1+219.665.5072 Mirage Computers, Inc. pamars@mirage.angola.in.us

"The lyf so short, the craft so long to lerne." - Chaucer

Date: Fri, 12 Dec 1997 20:26:57 -0600 (CST)
From: Kevin Pease <hamradio@mm1001.theporch.com>
To: boatanchors mailing list <theporch.com!boatanchors@mm1001.theporch.com>
Cc: Glowbugs Mailing List <www.atl.org!glowbugs@mm1001.theporch.com>
Subject: R-388
Message-ID: <Pine.LNX.3.95.971212202519.13419A-100000@mm1001.theporch.com>

Does anyone hav an R-388 that is not working that I can combine with the
R-388 that I have to make a working Unit ?

Kevin Pease
WB0JZG
Mount Juliet, TN.

Date: Fri, 12 Dec 1997 21:55:17 -0600
From: Gary Harmon <gharmon@txdirect.net>
To: BOATANCHORS@LISTSERV.TEMPE.GOV
Cc: boatanchors@theporch.com
Subject: Need GR Variac Meter
Message-ID: <3.0.3.32.19971212215517.0070f71c@mail.txdirect.net>

VARIAC
W5MT3A Auto Transformer
General Radio

The AC Ampere meter has a broken cover. The meter is 3in by 3in. Edge and
bottom of cover is a bronze color. Number on the meter is 5730-1422.

I need a cover for variac meter.

Thanks in advance and 73,
gary

=====

Gary H. Harmon, Jr., K5JWK
6302 Robin Forest

San Antonio, TX 78239-3218
(210) 657-1549
gharmon@txdirect.net
ICQ 5519171

+Too Many Projects, Not Enough Time!
+Pack Unto Others As You Would Have Them Pack Unto You!

=====

Date: Fri, 12 Dec 1997 20:21:31 -0800 (PST)
From: Ken Gordon <keng@uidaho.edu>
To: Jeffrey Herman <jeffreyh@hawaii.edu>
Cc: Old Tube Radios <boatanchors@theporch.com>
Subject: Re: T-784 canoe-anchor xmtr
Message-ID: <Pine.BSF.3.95.971212201404.13473A-100000@piobaire.mines.uidaho.edu>

> Received the latest Fair catalog and have fallen for the T-784
> transmitter ("3 to 22 MHz CW in bands 3-6, 6-10, 10-17, and
> 17-22 MHz at 10-15W...tubes 2E26, 6AC7... \$24.95"). I *must*
> have one.

I would say you must be ****NEW**** here, sonny! Those are the
transmitter portion of the AN/GRC-109 system which has been of
considerable interest around here in the near past. The tubes, a 6AC7
oscillator and a 2E26 final, are easily obtainable and very reliable.

>
> Does anyone have experience with this xmtr?

Yes. I have worked 35 countries with mine, mostly on 40.

> Are those tubes still
> readily available?

See above.

>Is the rated power input power?

10 to 15 watts depending somewhat on frequency.

> (Fair sells
> transistorized xmtrs too - not sure if they use in- or outpower
> power ratings). What era was this xmtr in use?

The AN/GRC-109 was used by first the CIA under a different numbering
system, then by the U.S.Army Special Forces for many years. Last heard of

being used by the SF in the 1960s. I have some letters from CIA and SF people concerning their use tactically. The SF comm officers say that the transmitters "...have never been known to fail..."

>
> I'm actually thinking of buying the RT-3 transmitter; besides the
> lack of code-burst capability, are there any other differences between the T-784 and the RT-3?

Not really.

> Why such diverse model numbers?
>

The RT numbers were primarily CIA numbers. The T-784 was a U.S. Army numbering system.

Ken W7EKB

Date: Fri, 12 Dec 1997 23:28:11 -0500 (EST)
From: William Donzelli <william@ans.net>
To: Richard Loken <richardlo@devax.admin.athabasca.ca>
Cc: Old Tube Radios <boatanchors@theporch.com>
Subject: Re: BC-645 (RE: Phasitrons)
Message-ID: <Pine.GS0.3.96.971212232126.2824A-100000@titan.purch.ans.net>

> and the normally rectangular box was ball shaped after the test. Think the
> British must have used more than thermite.

American thinking was to use many squibs, spread out over the chassis, to do the job. Thermite was used, as it does not explode - it reacts producing liquid iron, melting and burning anything in its path. Apparently British thinking was to use a centralized explosive squib to shred the box. The Philco SCR-515 clone of a British Mk II set also featured a central explosive squib, but showed the quick-and-dirty conversion of British designs prevalent at the time.

I know little about the German IFF sets - how did they do it?

William Donzelli
william@ans.net

Date: Fri, 12 Dec 1997 22:47:45 -0600
From: Tom Norris <badger@telalink.net>
To: boatanchors@theporch.com
Subject: Re: T-784 canoe-anchor xmtr
Message-ID: <3.0.3.32.19971212224745.02f58c34@mail1.telalink.net>

Ken replies to Jeffry Herman.....
[snip]

>The AN/GRC-109 was used by first the CIA under a different numbering
>system, then by the U.S.Army Special Forces for many years. Last heard of
>being used by the SF in the 1960s. I have some letters from CIA and SF
>people concerning their use tactically. The SF comm officers say that the
>transmitters "...have never been known to fail..."
>

What is scarey (or not, depending....) is that the AN/GRC-109 is STILL
listed in the current FM-24-24 equipment reference that is given to US Army
signal personnel.

Take a gander at the link on my mil-list, follow the link to the FM-24-24
at the top of the page. Lots of stuff considered BA that is still listed.
(Come to think of it the Kentucky Army National Guard were still using
GRC-19 sets ten years ago.....)

73 all

Tom

Please visit The Mil List for info on military communications gear:

[HTTP://www.telalink.net/~badger/millist/mi.html](http://www.telalink.net/~badger/millist/mi.html)

This is a non-comercial endeavor strictly for providing
info for those who have a need for it - and intertainment
for those who dont....

ANY and ALL Contributions Welcome.

Tom Norris KA4RKT

badger@telalink.net

Nashville, Tennessee, USA

Date: Fri, 12 Dec 1997 21:43:37 -0800
From: johnz@earthlink.net
To: boatanchors@sco.theporch.com
Cc: JONWEINER <JONWEINER@aol.com>
Subject: RE: Magic Sliders
Message-ID: <199712130546.VAA22647@denmark.it.earthlink.net>

Jon:

Thanks for the info on making the moving of BAs easier. Here in Southern (and most other parts of) California there is just an opposite concern: That of keeping our BA in place - during an earthquake. During the Northridge earthquake my home was damaged to the point where we had to move out for a year while it was rebuilt. Worse yet, (well, not really, but I do love BAs almost as much as my house!) was the loss of a number of tubes -including two precious 45s mounted on a push-pull Hartley breadboard I was buildin- which fell off shelves and got smashed by everthing that followed them to the floor (including the shelves). My favorite receiver, an SX-25, slid across the operating position and fell on the floor. Fortunately, it escaped serious damage (I know, you won't be buying any of my equipment now, so another excuse to keep it all)!

Ironically, just today at my second job's office at jpl, a sweep was made and all computer monitors and printers were secured to the tables using velcro sheets! Now the whole table with the monitor can fall on me.

John Zitzelberger
Thousand Oaks, CA

Date: Sat, 13 Dec 1997 04:43:54 EST
From: Ho4bart <Ho4bart@aol.com>
To: JONWEINER@aol.com, boatanchors@theporch.com
Subject: Re: Magic Sliders (hefting BAs)
Message-ID: <1164080d.349258dd@aol.com>

In a message dated 97-12-13 02:44:23 EST,
JONWEINER@aol.com writes:

> >From time to time there are complaints about moving
big BA's (none of us are getting any younger).

you know, this might seem like just more horsepoop, but i swear,
owning BAs has been positive for my physical fitness. i think after

years of moving BC-312s (AC supply installed), Northern Radio
boat radios, RBCs, PE-110s, boxes of Radio News and HR, boxes
of transformers (!!), etc etc to storage rooms and to and fro for
another cross country move, i simply have come to believe a certain
size container weighs in a certain weight range, and the body has
complemented this belief by adjusting to this perceived reality.
(the only thing that dismays me is moving 20 or so of the above
DOWN flights of stairs, that's for some reason so much harder on
the knees than going up stairs.) anyway when i see some civilian
(non anchorite) grimace while moving a so-called "heavy" printer,
stereo or other such creampuff that weighs a fraction of a true anchor,
i just shake my head in amusement.
fitness authorities recommend besides aerobic exercise, strength
training, and in the latter category i would include the regular hefting
of boatanchors or crates of related items. so a fascination with things
boatanchorish is good for overall health, providing both the mental
and physical stimulation and that are elemental. 4 out of 5 doctors agree.
[note: as KBVR says, these doctors are not actually not in the U.S., and
actually they are still in training.]
so enjoy the full-value, honest heft in those anchors.
hue miller

Date: Sat, 13 Dec 1997 10:40:18 -0000
From: "OZ8RO" <otterstad@inet.uni-c.dk>
To: <william@ans.net>, "Old Tube Radios" <boatanchors@theporch.com>
Subject: Re: BC-645 (RE: Phasitrons)
Message-ID: <199712131036.LAA21792@inet.uni2.dk>

thinking was to use many squibs, spread out over the chassis, to
> do the job. Thermite was used, as it does not explode - it reacts
> producing liquid iron, melting and burning anything in its path.
> Apparently British thinking was to use a centralized explosive squib to
> shred the box. The Philco SCR-515 clone of a British Mk II set also
> featured a central explosive squib, but showed the quick-and-dirty
> conversion of British designs prevalent at the time.
>
> I know little about the German IFF sets - how did they do it?
>
I have had a look in FUG 25 and find nothing of the sort. hi

Rag Otterstad OZ8RO in Copenhagen suburb of Birkerod.
Also JW5HE LA5HE. Previously held:G5BHQ HB9XCG
Collector of W.W.2 German military radio sets, Clandestine sets all
periods.

QRA : Hosterkobvej 10. DK 3460 Birkerod
Tel ---45- 4281 5205 evenings.
Daytime tel. ---45 - 4497 3366
I work for MEC A/S, manufacturer of high quality and good looking
pushbutton switches.
If you are designing electronics equipment please check our home page :
<http://www.mec.dk>

To know more about my ham background try :
<http://www.webspawner.com/users/oz8ro/>

> William Donzelli
> william@ans.net
>

Date: Sat, 13 Dec 1997 04:01:57 -0800
From: Dan Arney <kn6di@groupone.net>
To: boatanchors@theporch.com
Subject: NEED A METER FOR SX-16
Message-ID: <34927934.A4102430@groupone.net>

I sent mine to Larson Instruments in Santee,CA.92071 @ 9328 Wheatland Rd
and Art Stevens said there was nothing they could do for it.
(619)258-8990.

Somone asked me for the name of the Repair service and the D key got in
the way.

Hank KN6DI ALSO NEED A SX-16 MANUAL Have to call Gary I guess.

73's

Date: Fri, 12 Dec 1997 17:30:15 -0600
From: Bill Wilson <billo@internettpport.net>
To: "boatanchors@theporch.com" <boatanchors@theporch.com>
Subject: RE: RAO Progress

Message-ID: <3491C906.9B03D690@internettpport.net>

The UPS center in Buffalo, NY "lost" one of my packages this week too. The package was there for a couple of days and could not be found. Then it showed up at the door! So don't give up the fight...take the "tracking" info you see on the UPS.COM page with some salt.

BTW...I have a fine looking RA0-7 here with matching speaker. It has a Navy date on the front from 1945. It does work but needs some caps or something...audio suffers from a little distortion...NICE radio! I'm saving this project for next year...Gary Harmon's "too many radios, not enough time" comes up quite often around here.

Season's Greetings,

Bill
W4BIZ
Jacksonville, Al.

Looking for a case of ANY kind for a R-390

Date: Sat, 13 Dec 1997 09:06:31 -0600
From: David Meitzen <dmeitzen@champion.aclic.com>
To: boatanchors@theporch.com
Subject: WTB: 3.1 Kc. Fil for 75A4
Message-ID: <3492A477.16F7@aclic.com>

I need the standard filter for the A4. I bought a A4 with two filters. In the alignment process I discovered it had a 1.5 khz and 500hz but no 3.1khz.-weird.
Best of happy holidays
Dave AA9TT

Date: Sat, 13 Dec 1997 09:42:24 -0600
From: ab5wg@von1.com (Ron Eisenbrey)
To: boatanchors@theporch.com
Subject: Info on Jackson Ball Drives
Message-ID: <3492ACE0.1D6D577@von1.com>

Would anyone on this list have any information on Jackson Ball Drives? I would like to contact the factory if they are still in business? These ball drives were found in many types of old communications equipment and amateur gear. If you have a Surplus Sales of Nebraska

catalog there is a picture of one on page 320.

The only thing readable on the drive I have is "Made in England". No luck on searching the net!

As an alternative would anyone recommend a US manufacturer who makes similiar devices.

Thanks and Happy Holidays to all.

73

Ron, AB5WG

End of BOATANCHORS Digest 1830

>From ???@??? Sun Dec 14 11:08:45 1997

Message-Id: <199712140123.TAA19173@sco.theporch.com>

Date: Sat, 13 Dec 1997 19:23:31 CST

Subject: BOATANCHORS digest 1831

BOATANCHORS Digest 1831

Topics covered in this issue include:

- 1) Re: Info on Jackson Ball Drives
by WB9IOG <WB9IOG@revealed.net>
- 2) Re: NEED A METER FOR SX-16
by radiobwn@riconnect.com (Christopher A. Bowne)
- 3) Re: Loose Base
by Ed Tanton <n4xy@bellsouth.net>
- 4) PANEL RESTORATION
by WB9IOG <WB9IOG@revealed.net>
- 5) Saturday Handbook Score
by Dick Dillman <ddillman@igc.apc.org>
- 6) The 4CX1500B vs. 4CX1000A in the 30S-1 (long)
by Jim Garland W8ZR <4CX250B@miavx1.acs.muohio.edu>
- 7) Drake T-4XC working!
by "JOSE V. GAVILA (EB5AGV/EC5AAU)" <eb5agv@ctv.es>
- 8) Re: SSB Phase adjustment question
by "David L. Thompson" <thompson@mindspring.com>
- 9) Re: Loose Base
by Bill Jarvis <B.H.Jarvis@hw.ac.uk>
- 10) National XXL tube?

- by Bob/WB0AUQ <brainbol@lawrence.ks.us>
- 11) Re: National XXL tube?
by "Deane D McIntyre" <dmcintyr@acs6.ACS.UCALGARY.CA>
- 12) Meter Repair Sources (maybe for SX-16?)
by Scott Robinson <spr@earthlink.net>
- 13) Re: PANEL RESTORATION
by Ed KB2NSP <EdKB2NSP@aol.com>
- 14) Re: The 4CX1500B vs. 4CX1000A in the 30S-1
by "Lawrence R. Ware" <lrware@pipeline.com>
- 15) Sams Photofacts Pricing
by w4bld@juno.com (Robert B. Kerby)
- 16) FS: TMC oddities
by "john hart" <wa2hwj@worldnet.att.net>
- 17) Drake T-4XC working ALL BANDS!
by "JOSE V. GAVILA (EB5AGV/EC5AAU)" <eb5agv@ctv.es>
- 18) Re: The 4CX1500B vs. 4CX1000A in the 30S-1
by Dan Arney <kn6di@groupone.net>
- 19) Re: Loose Base
by Al Klase <skywaves@bw.webex.net>

Date: Sat, 13 Dec 1997 10:26:04 -0800
From: WB9IOG <WB9IOG@revealed.net>
To: ab5wg@von1.com
Cc: Old Tube Radios <boatanchors@theporch.com>
Subject: Re: Info on Jackson Ball Drives
Message-ID: <3492D33C.2C7B@REVEALED.NET>

Ron Eisenbrey wrote:

>
> Would anyone on this list have any information on Jackson Ball Drives?
> I would like to contact the factory if they are still in business?
> These ball drives were found in many types of old communications
> equipment and amateur gear. If you have a Surplus Sales of Nebraska
> catalog there is a picture of one on page 320.
>
> The only thing readable on the drive I have is "Made in England". No
> luck on searching the net!
>
> As an alternative would anyone recommend a US manufacturer who makes
> similiar devices.
>
> Thanks and Happy Holidays to all.
>
> 73
>
> Ron, AB5WG

Ron

I just ran into a source for these at Dan's small parts on the web.
ON SALE boy are you lucky! I remember your post but didn't know the source.

The URL <http://www.fix.net/dans.html>

Mike

Le Claire, Ia

Date: Sat, 13 Dec 1997 09:26:20 -0500
From: radiobwn@riconnect.com (Christopher A. Bowne)
To: kn6di@groupone.net
Cc: boatanchors@theporch.com
Subject: Re: NEED A METER FOR SX-16
Message-ID: <199712131426.1869500@RIconneCT.com>

>I sent mine to Larson Instruments in Santee,CA.92071 @ 9328 Wheatland Rd
>and Art Stevens said there was nothing they could do for it.
>(619)258-8990.

Boy - the above post gave me jolt!!!

I worked for Art, briefly, as an electronic technician for Larson, during the summer of 1973. At that time, Larson was in Orangeburg, NY, and I was between my junior and senior year in EE at the University of Rhode Island. Larson hired me for the summer, and I did assembly, test, and calibration of meter relays, which was their main product line, as I recall. These were meters with adjustable redhand setpoint indicators, which operated with a light source and photosensors to actuate relays that would change state at the (adjustable) redhand setpoint. One interesting aspect of the job was magnetizing the meter movement cores, which was done with a large induction coil. The movement core was placed within the coil, the field of which was then energized by dumping the contents of a VERY large charged capacitor bank into it. One had to be careful to orient the movement in the coil correctly. If it was placed in the wrong position, it would be fired across the room when the field from the coil hit it! A very graphic illustration of the old right hand rule of EMF, and a prototype rail gun!

What is Larson up to these days? Art must be getting on in years now....

73,

Chris Bowne, AJ1G
Stonington, CT
radiobwn@riconnect.com

Reading the mail it appears that Armor All is a no-no ,but sure looks good. I've used both the dull finish and glossy.
So looking for recommendations on the best wax, or whatever, to protect the front panel, and to blend in some of the age blotches for this Johnson relic.
Mike
Le Claire, Ia

Date: Sat, 13 Dec 1997 10:43:38 -0800 (PST)
From: Dick Dillman <ddillman@igc.apc.org>
To: boatanchors@theporch.com
Subject: Saturday Handbook Score
Message-ID: <2.2.16.19971213104210.10878494@pop.igc.org>

We're lucky enough to have two radio swapmeets a month here in the San Francisco Bay area during the Summer months. Even that's not enough for me so you can imagine how I suffer now that we're down to one a month for the Winter season. I suspect I won't get much sympathy from those of you who have one radio swapmeet a year or none at all! But what I do is haunt the non-radio flea markets as well. The occasional treasure turns up and you have the added possibility that the seller will have no idea what it is - the flea marketer's dream.

Anyway the score today was a 1967 Handbook in good condition from the "dollah, dollah, all books a dollah!" man, the only radio book among piles of cookbooks, self help books and Harelequin papbebacks with those wonderful bodice-ripping covers.

Happy hunting...

Regards,

Dick

Dick Dillman
<ddillman@igc.apc.org>
WPE2VT W6AWO
Collector Of Heavy Metal:
Harleys, Willys and Radios Over 100lbs.

Date: Sat, 13 Dec 1997 13:51:55 -0400

From: Jim Garland W8ZR <4CX250B@miavx1.acs.muohio.edu>
To: COLLINS@LISTSERV.TEMPE.GOV
Cc: boatanchors@theporch.com
Subject: The 4CX1500B vs. 4CX1000A in the 30S-1 (long)
Message-ID: <v03102815b0b8452f7dc0@[134.53.65.12]>

Floyd Soo W8RO writes, in part:

"> Were my comments about the 4CX1500B not having the same plate dissipation
>in the 30S-1 [in comparison to the 4CX1000A] because of the decreased
>airflow in that amp a misunderstanding on my part? It only makes sense
>to me that if I put more metal in the airstream with no other changes,
>that would increase the restriction and thus decrease the airflow. How
>would this lead to greater plate dissipation? "

Hi Floyd,

You've raised an extremely interesting question, and I'm taking the liberty of responding to the Group because of the general interest of the topic. I'll respond off-line to your other comments.

Background info for the Group: Many 30S-1 owners swap the stock 4CX1000A for a 4CX1500B, in part because they believe the extra 500 Watts of rated plate dissipation provide higher power capability and an extra margin of safety. Floyd (and others) have noted that the construction of the anode of the two tubes is identical, except for a higher density of cooling fins in the 4CX1500B. He reasons that unless the blower in the 30S-1 is changed also, the extra air resistance of the 4CX1500B fins would actually diminish the airflow, thus resulting in a decreased plate dissipation rather than the desired-for increase. This line of reasoning would suggest that one shouldn't swap the 4CX1000A for a 4CX1500B, unless one is also prepared to beef up the blower (which few of us are prepared to do).

So is Floyd right? The answer is, unfortunately, maybe yes, maybe no. It all depends on the 30S-1 blower rating. Here is, I believe, the explanation as to why.

Think of a blower as analogous to a battery. The maximum air pressure drop (or "back pressure") provided by the blower occurs when the output vent is blocked and corresponds to the open-circuit voltage V_o of the battery. On the other hand, when the output vent is completely open, with no restrictions at all, the pressure drop is zero, but maximum air flow is supplied by the blower. Under these conditions, the maximum air flow is analogous to the short-circuit current I_o supplied by the battery.

The short-circuit current supplied by a battery depends on its internal resistance, which I'll call r . The lower the internal resistance, the greater the short circuit current. In other words, an automobile battery

can supply hundreds of amperes when short circuited, because it has a very small internal resistance. A 9V transistor radio battery, on the other hand, may only supply a fraction of an ampere, because it has a large internal resistance.

Similarly, blowers have the equivalent of an internal resistance which determines their free (unrestricted) airflow. The blower equivalent of a car battery would be a blower with a huge motor and large blades. The blower equivalent to a 9V transistor radio battery would have a small motor and tiny blades.

With these points in mind, now consider what happens when a "load" (i.e., a 4CX1000A or 4CX1500B) is placed on the output vent of a blower. Under a load, the pressure drop supplied by the blower will be less than its "open-circuit" (fully blocked) pressure, and its supplied airflow will be less than its "short-circuit" (fully open) airflow. In electrical terms, the 4CX1000A would be a resistor R_1 tied across the blower "battery" V_o , while the 4CX1500B would be a load resistance R_2 . Because of the extra fins on the 4CX1500B. R_2 is greater than R_1 .

If the blower is very powerful (small r , compared to R_1 or R_2), the pressure drop across the tubes will be pretty much the same, regardless of which tube is used. In other words, if you were to tie a 1 ohm resistor across a 12V car battery, you would measure about 12 Volts. If you tied a 2 ohm resistor across the car battery, you would still measure about 12 Volts, the reason being that 1 or 2 ohms isn't small enough to drag down a car battery's voltage. Another way of saying the same thing is that the internal resistance, r , of the car battery is much smaller than the 1 or 2 ohms load.

If the blower is very powerful, meaning that the pressure drop is nearly unchanged with the tube swap, then Floyd is absolutely correct that the airflow will be LESS through the 4CX1500B. Since the 4CX1500B has higher air resistance than the 4CX1000A (because of its additional cooling fins), then the airflow (current) through it will be smaller. Since less air will be flowing through the 4CX1500B in these conditions (in comparison to the 4CX1000A), it will be able to dissipate less heat.

But this picture changes markedly if the blower is not a powerful blower. Consider what happens if the blower is more like our 9V transistor radio battery. If you put a 1 ohm or 2 ohm load across the little 9 volt battery, the voltage measured across the load resistors would drop far below nine volts, and the current through each resistor would be about the same, and equal (roughly) to the short circuit current of the battery. Because the internal resistance of the 9V battery is much larger than 1 or 2 ohms, the load resistors don't have much effect on the current. As electrical engineers would put it, the 9V battery (in these conditions) is sourcing current, whereas the car battery is sourcing voltage.

The same thing happens with the blower. If the blower is not powerful, then it "sources" air and not pressure when driving air through the tube. In other words, a weak blower will produce the same airflow and an increased pressure when a 4CX1500B is swapped for a 4CX1000A. A powerful blower will maintain constant pressure, but a lower airflow when the swap is made.

.

With a weak blower, it is definitely better to use the 4CX1500B than the 4CX1000A, because the constant airflow means the 4CX1500B can dissipate more heat than the 4CX1000A, and one can therefore take advantage of its higher intrinsic plate dissipation. With a powerful blower, it's best to keep the original 4CX1000A if you want to maximize plate dissipation in the amplifier.

I know that at first blush this result seems contrary to intuition. However, it is easy to verify mathematically by using the battery analogy and Ohm's law. Suppose a battery has open circuit voltage V_o , short circuit current I_o , internal resistance r , and external load R . Note that $r = V_o/I_o$, and compute the current I that flows through the external load R . Using Ohm's law, it follows that $I = V_o/(r+R)$. If the battery internal resistance $r \ll R$ (i.e., a car battery), then one can neglect r in the equation and $I \sim V_o/R$. In other words, as R is made larger (subbing the 4CX1500B for the 4CX1000A) then I (the airflow) decreases. However, if $r \gg R$ (as in the 9V battery), then one can ignore R in the equation, and $I \sim V_o/r$, which means that I (the airflow) is independent of the load (i.e., the same airflow for both the 4CX1500B and the 4CX1000A). (A slightly more advanced analysis, using calculus, shows that maximum power is transferred from the battery to the resistor when $r=R$, which is why like to match antenna impedances to our transmitter's output impedance.)

So what do we know about the blower in the 30S-1? Is it "powerful" or "weak" in the sense used here? The only way to know for sure is to measure its performance (or look up the manufacturer's specs). If you measured the pressure drop with a manometer (in inches of water) and found that the pressure drop was unchanged (or nearly so) when you swapped tubes, then you should use the 4CX1000A. On the other hand, if you found that the pressure doubled (approximately) when you swapped the 4CX1500B for the 4CX1000A, then you should use the 4CX1500B.

So which is it? 4CX1500B or 4CX1000A? Sorry, but I don't think it's possible to say, without actually measuring the back pressure with the 4CX1500B in place (or, alternately, the anode temperature). I'm not a mech. engineer, but I'd think reasonable design practice would be to match the load resistance of the tube to the effective internal resistance of the blower. This would mean that the back pressure with the tube in place would be about half the back pressure with the blower vent blocked completely. (Equivalently, the air flow with the tube in place would be about half the

airflow without the tube.) This condition would maximize the power delivered by the blower to the moving air stream and would thus be most economical, from a practical viewpoint.

In these circumstances, however, it's a tossup as to whether a 4CX1500B would get adequate cooling from the 30S-1 blower to take advantage of its extra dissipation ratings. There are too many experimental variables that one can't control to make any definite conclusions (such as whether the air flow through the fins is turbulent or laminar flow, how much heat is conducted away by the anode clamp, etc.) If I had to guess, I'd think that there probably would be some benefit to using the 4CX1500B over the 4CX1000A, but not the full 500 watts benefit. To be on the safe side, however, I'm going to use the 4CX1000A in my amplifier, until somebody actually measures the pressure drop with a 4CX1500B in the 30S-1 and shows me the results. There's a limit to how far theory can take one, and at some point hard facts are needed.

Sorry for the length of this, guys, but as you can see it's a rather complicated topic.

73,

Jim Garland W8ZR

,

The only way to know for sure, however, is actually to make a measurement of the pressure drop with the two tubes in place. Without hard data, I'm not sure additional speculation would be productive.

73,

Jim Garland W8ZR

Date: Sat, 13 Dec 1997 20:06:58 +0100

From: "JOSE V. GAVILA (EB5AGV/EC5AAU)" <eb5agv@ctv.es>
To: DRAKE-L@fablotz.min.net
Cc: "Boatanchors List" <boatanchors@sco.theporch.com>
Subject: Drake T-4XC working!
Message-ID: <3.0.1.32.19971213200658.006bf814@pop.ctv.es>

Hi Drake users,

Thanks to all of you who sent me messages with hints about the low output trouble in 20, 15 and 10 meters in my T-4XC. Finally, I have got it _almost_ 100% working. The trouble was a bad RF and INJECTION trimmers adjustment, as some of you suggested. I think the trouble was originated at the R38 and R39 failure (V3 6AU6 MIXER plate resistors). I guess that, when they got burned, the former user performed an alignment of these trimmers (and perhaps threw away the 'bad' finals!). Curiously enough, the transmitter worked fine at 80 and 40 WITH the burned resistors, but he couldn't get it working at the other bands... When I changed the resistors, the transmitter didn't work but it can be aligned to work at higher bands.

I said '_almost_ 100% working' because now I can get full power in 80, 40, 20 and 15 meters BUT only about 40W in 10 meters... As I'm not planning to use this band at the moment, I'll use the rig as-is for some time to finally enjoy working with it and, when I have some time, I'll try to solve the 10 meter trouble. By the way, any hint about this trouble would be welcomed!.

Well, that's all for now.

Thanks again to all who helped and MERRY CHRISTMAS!.

JOSE

73 EB5AGV / EC5AAU
JOSE V. GAVILA
Ausias March 46, 15
46910 Benetusser - VALENCIA
SPAIN

<http://www.geocities.com/SiliconValley/6992/>
e-mail: eb5agv@ctv.es & eb5agv@amsat.org

Date: Sat, 13 Dec 1997 14:26:10 -0500 (EST)
From: "David L. Thompson" <thompson@mindspring.com>
To: boatanchors@theporch.com
Subject: Re: SSB Phase adjustment question
Message-ID: <1.5.4.16.19971213152722.2947c306@pop.mindspring.com>

>On Fri, 12 Dec 1997, Stanley Wilson wrote:

>

>> In some of the BA rigs from the 50's and 60's (Lakeshore, Central
>> Electronics) had tuning eyes. What was the function ? How was the
>> amplitude and phase balance adjustments made. I notice in the block
>> diagram for a CE 100V they had a null meter ? Looking for a simple way
>> to verify adjustment without scope, etc..

Bob K9EUI replied:

>

>In the 20-A by C.E. the eye tube is just used as a null indicator.
>You adjust the carrier null pots for minimum carrier as indicated by
>the eye. Nice thing about the eye is that you can't "pin" it :-)
>

The eye and the null meter (CE100V) and the use of the multi meter in an SB-10 were for nulling the carrier. The only way to properly adjust the balanced modulators is to follow the instructions in the book. This usually involved both a scope, some test gear, one/two tone test generators, and a receiver. Many used the B&W phasing network and thus you might be able to use one procedure for all if you have the schematic. A warning, the SB-10 and several of the older phasing SSB rigs did not do a good job of other sideband suppression. This was not due to the B&W or phasing network, but to lack of proper filtering. A good audio filter is a must to limit speech to 250/300 to 3000 hz (CPS).

Its not the best, but you could use a receiver with no antenna across the room (you on low power to dummy load) to check...at least you can tell if you are SSB or near DSB that way. Be sure to check both LSB and USB, too.

73, Dave K4JRB

Date: Sat, 13 Dec 1997 19:32:48 +2400
From: Bill Jarvis <B.H.Jarvis@hw.ac.uk>
To: n4xy <n4xy@bellsouth.net>
Cc: boatanchors <boatanchors@theporch.com>
Subject: Re: Loose Base
Message-ID: <199712131932.TAA21507@punt1.hw.ac.uk>

Personally I use Evostik, which never sets 100% hard.

I also use it for sticking paper or card to glass (eg advert on inside of window) because it NEVER comes unstuck accidentally, but can be

removed without trace with a razor blade when desired.

ICancel that "never" - it DOES become crisp and lets go, when exposed for months to UV - I discovered this trying to stick my vehicle licence to the inside of the windscreen.)

UN de gm8apx

Bill, aka maestro@cix.co.uk. Tel/fax/msg [44 or 0] 131 336 4502
GM8APX, qthr=No 6, EH4 6JY==Cave felem==No Rectangulars=Ikke Hawkering

Piscis nequam est nisi recens

Net-Tamer V 1.10 - Registered

Date: Sat, 13 Dec 1997 13:48:51 -0600
From: Bob/WB0AUQ <brainbol@lawrence.ks.us>
To: boatanchors@theporch.com
Subject: National XXL tube?
Message-ID: <3492E6A3.32A7@lawrence.ks.us>

I came across one of these and cannot find any info on the tube.
Made by National Union, with the marking "XXL" both on the box and the tube, no other id. Is a loctal. Box says it is a good replacement for all standard sets and new frequency modulated sets. Does this date it late 30s/early 40s? (Not sure when the loctal came out.) Appears to be a pentode. Anyone know whatisit?

--
73,
Bob/WB0AUQ/AFA3RE AMI #1162 FISTS #1905
e-mailto:brainbol@lawrence.ks.us

Date: Sat, 13 Dec 1997 13:37:40 -0700
From: "Deane D McIntyre" <dmcintyr@acs6.ACS.UCALGARY.CA>
To: boatanchors@theporch.com
Subject: Re: National XXL tube?
Message-ID: <9712132037.ZZ783480@acs6.acs.ucalgary.ca>

In message <3492E6A3.32A7@lawrence.ks.us> writes:

>

> I came across one of these and cannot find any info on the tube.

> Made by National Union, with the marking "XXL" both on the box and
> the tube, no other id. Is a loctal. Box says it is a good replacement
> for all standard sets and new frequency modulated sets. Does this date
> it late 30s/early 40s? (Not sure when the loctal came out.) Appears
> to be a pentode. Anyone know whatisit?

This tube is one of the early loctals as introduced by Sylvania in the late 1930's. Medium mu triode, EIA base 5AC. Filament 6.3 volts (some sources say 7.0). Appears to be the same tube as the 7A4. As oscillator with 250 volts on plate and bias -8.0 volts, plate current 8 ma, Gm 2300 umhos, mu 20.

73, Deane D McIntyre VE6BP0
dmcintyr@acs.ucalgary.ca

Date: Sat, 13 Dec 1997 13:46:40 -0800
From: Scott Robinson <spr@earthlink.net>
To: boatanchors@theporch.com
Subject: Meter Repair Sources (maybe for SX-16?)
Message-ID: <v03007804b0b8b297585d@[153.34.140.142]>

Subject:

Herewith my file on meter repair people, including the comments that their names were posted with. I myself use Ye Olde Meter Cellar; Leonard does very good work.

Ram Meter
1903 Barrett
Troy, Mich. 48084
ph. 810-362-0990

All they do is Meter repair.

ALSO:

Ye Olde Meter Cellar
Leonard W. Cartwright
879 Russet Drive
Sunnyvale CA 94087
(408) 739-6025

A few days ago someone asked about meter repair. I've recently been in contact with a company that anyone with meter repair needs should know about:

Standard Meter Laboratory
236 Rickenbacker Circle
Livermore, CA 94550
Phone: 510-449-0220

I called for repair information on an old Simpson 260 I retrieved from a abandoned radio repair shop. They were willing to take it on, no sweat. My earlier contact with them was in the 80s when they were located in San Francisco. I brought them the rudder position meter from the Greenpeace ship Rainbow Warrior (the one later blown up by the French). Not only was the meter old, it was English to boot. "No problem, we'll have it for you within the week." And they did.

I trust they have kept that same standard of capability. I'll let you know what they say about the Simpson, which was the victim of the dreaded leaking battery syndrome.

Dick Dillman
WPE2VT N6VS ex-WA2BJK
<ddillman@igc.apc.org>
Collector of Heavy Metal:
Harleys, Willys and Radios Over 100lbs.

I recently visited Standard Meter Lab, Inc. in Livermore, Ca. These people know a lot about meters in general. They are able to reproduce meters of just about any style and shape. They can create meter face plates with a CAD program. They have a photographic machine that creates a negative and a method of creating a positive plate that can be inked to make an exact replacement.

I was able to have a meter made to original specks that was otherwise not replaceable.

They have the necessary shunts and can acquire thermocouples that are appropiate to the application.

I was shown around their work room and even was able to see their clean room. Lots of very expensive test equipment.

I talked to Walt Homick and he understands the problem we face trying to make everything perfect.

They are at 236 Rickenbacker Circle in Livermore--94550.

510-449-0220---Fax 510-449-1704

A day well spent!

=====

=====

Wanted 312-B3
Richard@Sacramento,Ca.

The stuff to use for repairing loose or missing meter
glass is, strangely enough, watch crystal cement.

Germanow-Simon Corp., PO Box 1091, Rochester, NY 14603-1091

makes a product called G-S Hypo-Tube Cement, which comes
with a teensie-weensie hypo-needle applicator. It's the
right stuff!

I got mine at a local lapidary/jewelry supplies shop,
but the manufacturer can certainly aim you toward
their outlets.

Good News Everyone: I have located EIL their address is (In Florida)
EIL Instrutments
1335 Gateway Drive
Melbourne, Florida (Zip Unknown)
Phone: (407) 725.8300

Subject: Panel meters
From: pewowarukh
Date: 23 Jan 1997 20:47:14 GMT
Have a meter for a Hickok 532 for \$10.00 also other panel meters if you
need any send me your wants

Thanks Harry

As one who repairs meter movements for tube testers, I generally advise
leaving it alone, as a sticking movement is far better than a broken
one! It is extremely tedious, and one slip can ruin all. If you ever
need a tube tester or calibration /repairs keep me in mind. Hickokdoc at
wate@erols.com

Meters and Instruments
A Division of Metermaster
9431 Winkler
Houston, Texas 77017
Tel: 713-943-1211

Regards,

Scott Robinson
spr@earthlink.net

Junque is GOOD for you!

Scott Robinson
spr@earthlink.net

Junque is GOOD for you!

Date: Sat, 13 Dec 1997 16:56:13 EST
From: Ed KB2NSP <EdKB2NSP@aol.com>
To: boatanchors@theporch.com, WB9IOG@revealed.net
Subject: Re: PANEL RESTORATION
Message-ID: <3d037571.3493047f@aol.com>

Hi Mike

I don't claim to be any kind of authority, but I've got quite a few nicely restored rigs staring at me as I'm writing this. After I've removed the front panel (most times) and gotten off any labels or additions, I carefully wash the panel with mild dishsoap and water. Then I rub it out with "NOVUS # 2 plastic polish being careful to save "elbow grease" for any rough spots. Once it seems presentable I'll rinse and blow dry it, then finish it off with a round of plain car wax (not cleaner wax) !

I've never lost any markings, but did go overboard once trying to polish up the rough areas around a few knobs, and found myself with bare metal.

I'll close with the standard disclaimer though ! Your results may vary ! I've talked to others who used "Softscrub" with decent results also.

I hope this is consistant with other advice I'm sure you'll get from the list !

Date: Sat, 13 Dec 1997 16:49:08 +0000
From: "Lawrence R. Ware" <lrware@pipeline.com>
To: boatanchors@sco.theporch.com
Subject: Re: The 4CX1500B vs. 4CX1000A in the 30S-1
Message-ID: <3.0.32.19971213164902.006f7618@pop.pipeline.com>

At 13:51 12/13/1997 -0400, Jim Garland W8ZR wrote:

>>It only makes sense
>>to me that if I put more metal in the airstream with no other changes,
>>that would increase the restriction and thus decrease the airflow.
>
>You've raised an extremely interesting question,
<snip of long, interesting discussion of issue with analogy of Ohms Law.>

>have noted that the construction of the anode of
>the two tubes is identical, except for a higher density of cooling fins in
>the 4CX1500B.

This is where the problem starts to get very interesting. The difference in available cooling **area** in the tube anodes forces us to look at the problem in a different way.

Jim makes a number of points about blower behavior under varying back-pressure conditions. But unless you also consider the effects of the change in available cooling area and possible changes in the **rate** of air flow across the cooling area, you are not taking several important variables into effect.

>So which is it? 4CX1500B or 4CX1000A? Sorry, but I don't think it's
>possible to say, without actually measuring the back pressure with the
>4CX1500B in place (or, alternately, the anode temperature).
<snip>
>one can't control to make any definite conclusions (such as whether the air
>flow through the fins is turbulent or laminar flow, how much heat is
>conducted away by the anode clamp, etc.)

The only way to really understand the effects of this kind of change is to set up controlled conditions in which as many variables as possible are nailed down and held steady. We need to make most of them into constants and measure the anode temp under controlled operating conditions. Make sure everything from B+ to drive power is held constant while trying both tubes. Now under controlled conditions which one has the lower anode temp? This single measurement effectively integrates all the variables into one result.

This only tells us what change (+ or -) we will have at one data point. (Say 1KW output into 1:1 load....)

Because at least some people considering this change are looking for more power out, the tests really should be rerun at desired output level. Then it is time for a trip to the Emiac book to discover what the max. permissible anode operating temp. is.

>Sorry for the length of this, guys, but as you can see it's a rather
>complicated topic.

It is indeed a complicated and interesting topic. I'm quite sure the

method(s) of calculating this all on paper is in my copy of:
"Principles of Heat Transfer" by Kreith and Bohn. However even though
I worked for these gents for a couple of years, most of it might as well
be in Sanskrit. :-)

-Larry Ware
lrware@pipeline.com
Orlando, Florida

Date: Sat, 13 Dec 1997 17:45:27 EST
From: w4bld@juno.com (Robert B. Kerby)
To: boatanchors@theporch.com
Subject: Sams Photofacts Pricing
Message-ID: <19971213.174854.5023.0.W4BLD@juno.com>

Hi Gang - What would be a fair price to pay for a complete set of these
files in very good shape? Thanks for your help!! Bob

Robert B. Kerby - w4bld@juno.com
PO Box 991 (231 Rosser Avenue)
Waynesboro, VA 22980 (540) 942-4356
Collect: Morrow, Gonset, Elmac

Date: Sat, 13 Dec 1997 19:19:14 -0500
From: "john hart" <wa2hwj@worldnet.att.net>
To: "boatanchors" <boatanchors@theporch.com>
Subject: FS: TMC oddities
Message-ID: <19971214001900.AAA17277@default>

I have a couple of TMC "oddballs" sitting in the rack. I need the space;
therefore, these are
forsale:

1) Diversity Visual Monitor- DVM-4 - it's in a 7-inch rackmount unit with a
3BP1 scope tube and some
miscellaneous parts and pieces. This unit has a TMC property tag on it and
came from their NY
factory inventory. It has some parts missing, but is clean (tube vintage).
I have no idea what this
thing was used for. The controls seem to indicate it might have an RF
spectrum monitor type of application. I was going to use it as the basis

for a RTTY converter at one
time.....\$30.00

2) CODAN - CDN-4 - in a 3 1/2-inch rackmount. This unit is complete, but I have no info on it. I do know that it was mated to a Collins 51S1 and apparently was used as a "carrier-operated-relay". The 51S1 was tuned to the 2 MHZ marine radiotelephone channels and this unit provided the necessary control leads to the telco equipment to indicate that a carrier was on the channel (it's "transistorized"). There was a 7-foot rack full of 51S1's and these TMC units located at an AT&T tower on Long Island 20 years ago. The 51S1's were totally shot when the 2 MHZ marine channels were eventually shut down. I think all of the receivers were junked (sob!).....\$30.00

Shipping extra on both. If any interest, please email to
"WA2HWJ@worldnet.att.net",
or call 973-927-7784 (New Jersey).

73, Jack, WA2HWJ

Date: Sun, 14 Dec 1997 01:20:36 +0100
From: "JOSE V. GAVILA (EB5AGV/EC5AAU)" <eb5agv@ctv.es>
To: DRAKE-L@fablotz.min.net
Cc: "Boatanchors List" <boatanchors@sco.theporch.com>
Subject: Drake T-4XC working ALL BANDS!
Message-ID: <3.0.1.32.19971214012036.006c0198@pop.ctv.es>

Hi again!

I got it :-)! . Now the T-4XC works in ALL bands, including 10 meters. All what it needed was a neutralization of the 6JB6 PA tubes to get it working after the RF / MIXER alignment done previously. By the way, the neutralization capacitor was only about 15 degrees out of adjustment but it makes a LOT of difference ;-)

I think now I have the full failure process for this unit:

1-Somebody decides the T-4XC is out of adjustment. Perhaps a 6JB6 or 12BY7 change?.

2-Trying to adjust the RF and MIXER trimmers, this guy shortcircuits one of the RF trimmers to chassis and... pffffff... two charred resistors (R38 and R39)!.
3-Probably the guy didn't found the broken resistors and, after some time 'adjusting' the RF and MIXER trimmers, he decided to sell the rig. Of course, the 'adjustment' left the poor transmitter far from its working point.
4-Then I bought a C-line with 'low power output' but 'with a couple of 6JB6 spares', as the seller thought the trouble was in the tubes... Now I have an spare Sylvania NIB matched pair :-).

The rest is already known by you...

Well, thanks again for all your help getting this transmitter to life!.

Best regards from a happy boy.

JOSE

73 EB5AGV / EC5AAU
JOSE V. GAVILA
Ausias March 46, 15
46910 Benetusser - VALENCIA
SPAIN

<http://www.geocities.com/SiliconValley/6992/>
e-mail: eb5agv@ctv.es & eb5agv@amsat.org

Date: Sat, 13 Dec 1997 16:21:05 -0800
From: Dan Arney <kn6di@groupone.net>
To: lrware@pipeline.com
Cc: Old Tube Radios <boatanchors@theporch.com>
Subject: Re: The 4CX1500B vs. 4CX1000A in the 30S-1
Message-ID: <3493266F.733E9299@groupone.net>

Lawrence R. Ware wrote:

> At 13:51 12/13/1997 -0400, Jim Garland W8ZR wrote:
> >>It only makes sense
> >>to me that if I put more metal in the airstream with no other
> changes,
> >>that would increase the restriction and thus decrease the airflow.
> >
> >You've raised an extremely interesting question,
> <snip of long, interesting discussion of issue with analogy of Ohms

> Law.>
>
> >have noted that the construction of the anode of
> >the two tubes is identical, except for a higher density of cooling
> fins in
> >the 4CX1500B.
>
> This is all very interesting and is well taken.

Just to keep this from going for at least 2 or 3 weeks. Can someone
condense it down to laymens terms in say 200 words or less minus all of
the laws, formulas etc, etc, In other words just the nitty gritty. Hi. Hank
KN6DI
73's

Date: Sat, 13 Dec 1997 20:19:14 -0500
From: Al Klase <skywaves@bw.webex.net>
To: n4xy@bellsouth.net
Cc: Old Tube Radios <boatanchors@theporch.com>
Subject: Re: Loose Base
Message-ID: <3493340D.7515AE2E@bw.webex.net>

Here's my solution to loose tube bases. I found this in an old radio
magazine, so it really is a "vintage" fix: Wrap three or four turns of string
around the juncture of the glass and the tube base, and tie tightly. (This is
a good place for a surgeon's knot if you know it.) Coat the string liberally
with glue, and wipe off the excess. I use old fashioned cotton kite string and
Duco cement. Just wrapping with the string is usually enough to eliminate the
wiggles and the cement make it permanent.

This, of course, isn't an invisible repair, but it works well and has a
funky old-timey appearance.

My two cents,
Al

--
Al Klase - N3FRQ
skywaves@bw.webex.net
Flemington, NJ 08822
Web Page: <http://www.webex.net/~skywaves/home.htm>

End of BOATANCHORS Digest 1831
